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A CASE OF SUPPURATING ETHMOIDITIS.*

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WASHINGTON.

THE following is a report of an interesting case of sup-
puration of the ethmoid cells, terminating in caries, and it
illustrates a condition which has been described as *rhinitis*
caseosa :

In October, 1891, Mrs. —, aged twenty-eight, an anæmic
and hysterical woman, consulted me. She gave a good family
history, and stated that up to the time she contracted influenza
in the spring of 1891 she had enjoyed fairly good health, and
that she had been particularly free from catarrhal inflammations
affecting the upper respiratory tract. Since the attack of
influenza, from which she made a very slow recovery, she has
had what she regarded as a severe cold in the head.

In March of the same year she suffered from caries of the
upper left second molar tooth. Her dentist destroyed the nerve
and cut the tooth down in order to apply a gold crown. She
was evidently handled roughly, for a severe alveolar abscess de-
veloped after the gold crown had been fitted. The left side of
the face was intensely swollen and sensitive, and she thought
her nasal symptoms were greatly aggravated.

* Read before the American Laryngological Association at its four-
teenth annual congress.



In the early part of July the left side of the nose became closed, and she has not been able to breathe through it since. The secretions, at first watery in character, have become thick, foetid, and very profuse, discharging freely both from the front of the nose and into the post-nasal space. She complains also of an intense pain over the bridge of the nose, extending along the infra-orbital ridge to the temporal region of the left side. Her headaches have been so severe that she has been unable to sleep without the aid of anodynes. The impression made upon her general health has been very severe. She has no appetite, and is nervous and hysterical. There is no exophthalmos, no disturbance of the field of vision, or any swelling at the inner angle of the orbit. There is severe pain on pressure on the eyeball, and at the inner angle of the orbit a crepitating sensation, perceptible to the patient, is produced by slight pressure. She complains of pain and a sense of pressure back of the eyeball.

A rhinoscopic examination showed the right side of the nose to be in a fair state of health, there being only a slight turgescence of the inferior turbinated body. On the left side two medium-sized mucous polypi were found attached to the anterior extremity of the middle turbinated bone. The inferior turbinal was very much swollen and partially blocked up the vestibule of the nose, which was filled with a thick caseous and foul-smelling secretion. The polypi were removed with the snare, and the inferior turbinated body, contracted by means of cocaine, allowed the middle turbinated body, which was greatly swollen and projected over against the septum, to be brought into view. A posterior rhinoscopic examination showed the middle and inferior turbinated bodies swollen, and the same thick caseous secretion passing over the posterior extremity of the middle turbinal into the post-nasal space. After snaring off the polypi, the nose was cleared of all secretion so that a more careful examination could be made. The secretion was observed to come both from the middle meatus and from above between the middle turbinated body and the septum.

Examination with electric light showed the left antrum to be opaque while its fellow of the opposite side remained translucent as high as the infra-orbital ridge, thus revealing the fact

that the left antrum was affected and complicated the inflammation of the ethmoid cells. The nose was thoroughly cleansed of all secretion, the second molar tooth extracted, and the antrum perforated at that point. Upon washing out the cavity it was found to contain about a teaspoonful or more of a thick, muco-purulent secretion, differing in character from that observed in the nose. There was some evidence of necrosis around the buccal root, and upon breaking open the tooth the pulp cavity and the roots were found to contain decomposing nerve tissue which had not been removed, and which, in all probability, was the cause of the inflammation having extended into the maxillary sinus. The inflammation in the antrum subsided in the course of a week under the local applications employed, while, on the other hand, the caseous secretion showed no tendency to diminish after the nose had been treated daily with the peroxide of hydrogen and other antiseptic lotions for several weeks. The headache and orbital pains increased in intensity, and the general health of the patient continued to grow worse.

In the mean time the polypi redeveloped and were removed as before by means of the snare. In doing so a small spiculum of bone was removed from the anterior extremity of the middle turbinated body, but the opening made was not sufficiently large to admit of the abscess discharging its entire contents. There was a slight increase in the amount, but not enough to give the patient much relief, for she suffered intensely after the operation and passed a sleepless night. The following morning, however, as she was on her way to my office, the abscess discharged spontaneously a great quantity of thick caseous secretion both from the front of the nose and into the post-nasal space. While she was made quite ill by the foetid mass passing into the mouth, and came near fainting in the street, she experienced almost immediate relief from the headache and pain in the eye.

When she reached the office I found, upon examination, the nose was entirely free from secretion; and while the contour of the middle turbinated body was maintained, it had apparently been drawn outward toward the orbit, thus obliterating the middle meatus. The opening caused by the detachment of the

polypi could not be found, and no rough bone was detected with the probe.

The patient was kept under observation for ten days, and during that time the nose was free from secretion; the pain in her head and eye ceased, and her general health improved. Within the past week I have had an opportunity of examining the patient again, and I found the parts in much the same condition as when last examined, except that the anterior extremity of the middle turbinated body seems to have been drawn nearer to the orbit than the rest of the body.

In 1874 Duplay (1) described an affection of the nose as rhinitis caseosa, a disease that had been previously alluded to by Nélaton (2). He states that the affection is very rare, and is characterized by an accumulation in the interior of the nasal cavities of a caseous material analogous to the contents of certain sebaceous cysts, and that the disease frequently goes unrecognized.

It is evident that Duplay was mistaken and misinterpreted the symptoms of the cases he had under observation, judging from the silence with which the subject is treated by most of the German, English, and American authorities. Potiquet (3) denies the existence of such a disease, and states that Duplay's conclusions were based on errors in diagnosis. Cozzolino (4), on the other hand, says that it is a very rare disease, and considers it a desquamative rhinitis observed principally in scrofulous subjects. He considers it also analogous to a condition of the middle ear where cholesteatomatous masses are found in the tympanum and mastoid cells, and suggests the name of cholesteatomatous rhinitis. Schleicher (5) believes the caseous secretion is accounted for by the degeneration of mucous polypi. Lennox Browne (6) says that no satisfactory account of the disease has been given; but it seems to be due to long-retained secretions originating in the superior meatus, or in one or more of the accessory cavities of the nose, and that

it is usually associated with caries of the ethmoid bone. He states that Hall has seen the sphenoidal sinus filled with this caseous material in five instances, in dissecting-room subjects of advanced age, in which there was no disease of the bone present. In my case I believe the affection commenced as a simple rhinitis in the course of an attack of *la grippe*, and extended to the ethmoid bone, terminating in suppuration and in caries of the bony trabeculæ of the ethmoid cells. I have met with this caseous secretion in two other instances, but in neither of them was the secretion so profuse as in the above case. It occurred once in a case of caries of the middle turbinated body, and in the other in a case of abscess of the antrum of long standing in which there was caries of the alveolar process.

In well-marked cases the diagnosis of abscess of the ethmoid cells is not a difficult matter, but in the majority of instances the symptoms are obscure, and there is frequently an implication of one or more of the neighboring sinuses so that it is almost impossible at times to state positively which is the source of the pus. The diagnosis must then be made from the following symptoms, some of which may be occasionally absent: A swollen condition of the middle turbinated body, the presence of pus in the middle meatus, and, if the posterior cells are involved, the presence of pus flowing over the posterior extremity of the middle turbinated body into the post-nasal space; the absence of the pulsating light reflex, which is observed in abscess of the antrum; swelling at the inner angle of the orbit; exophthalmus; narrowing of the field of vision; crepitation on pressure over the inner angle of the orbit; pain in the orbit and along the infra-orbital ridge. The presence of pus in the middle meatus is common to inflammations of the frontal and maxillary sinuses as well as to that of the ethmoid sinus, and it is very difficult at times to

trace it to its source; but, according to Max Schaeffer (7), in pain we have a much more reliable symptom in differentiating between abscesses of the various sinuses. In case of the frontal sinus pain is felt at the root of the nose, and extends along the supra-orbital ridge, while in ethmoidal affections it extends along the infra-orbital ridge; and in my experience it is noticeably absent in chronic abscesses of the antrum.

The complications of suppurating ethmoiditis most frequently met with are abscess of the antrum, abscess of the orbit, and meningitis.

While in the above-cited case the antral complication was purely accidental and was dependent upon a carious tooth, it is a very frequent complication, as is evidenced by the fact that Bosworth, in his valuable paper on the various forms of disease of the ethmoid cells, read before this association at its last meeting, mentioned thirteen cases of suppurating ethmoiditis, seven of which were complicated with abscess of the antrum. The frequency of this complication may be accounted for in several ways: 1. The opening of the anterior ethmoid cells and that of the antrum lie very close together in the hiatus semilunaris, and inflammations of the nose affecting one cavity would be most likely to extend to the other. 2. Mechanical obstruction, either from polypi or hypertrophic rhinitis, causing the mucus to be confined in both sinuses, and a consequent purulent inflammation resulting. 3. Pus accumulating in the middle meatus and working its way into the antrum. 4. Owing to an anomalous condition of the ethmoid bone in which the anterior and posterior ethmoid cells communicate with the antrum. We do not know how often this anomaly occurs, and in some instances where the neighboring sinuses communicate with each other, the openings may be pathological; but in others they are natural, as is well illustrated

in a specimen in the Army Medical Museum, in which the frontal sinus opens directly into the summit of the antrum.

While the indications for treatment in the above case were perfectly plain, and the patient could have been saved much suffering had she accepted surgical aid, we must remember, before resorting to severe measures, that these abscesses sometimes discharge spontaneously, and others are relieved in the course of the removal of polypi. In the great majority of cases, however, it will be found necessary to open the cells so that free drainage can take place, and any necrosed or carious bone removed. For this purpose I have found the snare and a sharp curette preferable to the drill.

1. *Traité de pathologie externe*, t. iii, 1874.
2. *Éléments de pathologie chirurgicale de Nélaton*, iii, second ed., 1874, p. 715.
3. *Gazette des hôpitaux*, February 2, 1889.
4. *Annales des maladies de l'oreille*, etc., October, 1889.
5. *Annales des maladies de l'oreille*, etc., July, 1890.
6. *Diseases of the Throat and Nose*, third edition, London, p. 580.
7. *Deutsche med. Wochenschrift*, October 9, 1890.

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